

Title (en)  
NON-AQUEOUS ELECTROLYTE SOLUTION FOR LITHIUM SECONDARY BATTERY AND LITHIUM SECONDARY BATTERY COMPRISING SAME

Title (de)  
NICHTWÄSSRIGE ELEKTROLYTLÖSUNG FÜR EINE LITHIUMSEKUNDÄRBATTERIE UND LITHIUMSEKUNDÄRBATTERIE DAMIT

Title (fr)  
SOLUTION D'ÉLECTROLYTE NON AQUEUX POUR BATTERIE RECHARGEABLE AU LITHIUM ET BATTERIE RECHARGEABLE AU LITHIUM COMPRENANT CETTE DERNIÈRE

Publication  
**EP 3648233 A4 20201125 (EN)**

Application  
**EP 19751925 A 20190212**

Priority  
• KR 20180016782 A 20180212  
• KR 2019001705 W 20190212

Abstract (en)  
[origin: EP3648233A1] The present invention relates to a non-aqueous electrolyte solution for a lithium secondary battery, which includes a compound having an excellent effect of removing a decomposition product, such as HF and PF<sub>5</sub>, generated from a lithium salt in the electrolyte solution as an additive, and a lithium secondary battery in which high-temperature storage characteristics are improved by including the non-aqueous electrolyte solution for a lithium secondary battery.

IPC 8 full level  
**H01M 10/0567** (2010.01); **H01M 10/052** (2010.01); **H01M 10/0525** (2010.01)

CPC (source: EP KR US)  
**H01M 10/052** (2013.01 - EP KR); **H01M 10/0525** (2013.01 - EP US); **H01M 10/0567** (2013.01 - EP KR US); **H01M 10/0569** (2013.01 - US); **H01M 10/4235** (2013.01 - KR); **H01M 2300/0025** (2013.01 - EP KR US); **Y02E 60/10** (2013.01 - EP)

Citation (search report)  
• [XY] JP S61208758 A 19860917 - HITACHI MAXELL  
• [A] JP S5887779 A 19830525 - NIPPON TELEGRAPH & TELEPHONE  
• [A] US 3716410 A 19730213 - BUTLER J, et al  
• [YA] DE 102015218653 A1 20170330 - WACKER CHEMIE AG [DE]  
• [A] US 2015140445 A1 20150521 - AOKI MASAHIRO [JP], et al  
• See also references of WO 2019156539A1

Cited by  
EP3648231A4; US11309583B2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 3648233 A1 20200506; EP 3648233 A4 20201125; EP 3648233 B1 20240403**; CN 110998958 A 20200410; CN 110998958 B 20221014; JP 2021501978 A 20210121; JP 7094601 B2 20220704; KR 102345312 B1 20220103; KR 20190098074 A 20190821; PL 3648233 T3 20240610; US 11476500 B2 20221018; US 2021036364 A1 20210204; WO 2019156539 A1 20190815

DOCDB simple family (application)  
**EP 19751925 A 20190212**; CN 201980003730 A 20190212; JP 2020524763 A 20190212; KR 20190016080 A 20190212; KR 2019001705 W 20190212; PL 19751925 T 20190212; US 201916635405 A 20190212